

Brownfield Site Cleanup and Redevelopment

Brownfield Sites

In general, a “Brownfield site”, as defined in the *Small Business Liability Relief and Brownfields Revitalization Act* (SBLRBR), is real property, the expansion, redevelopment or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Brownfield sites are generally not highly contaminated, however, the types and levels of contaminants present can vary considerably. When contaminants are present, they may be located in surface soil, buildings, containers (drums, underground tanks), subsurface soil, and groundwater aquifers. The types of contaminants present will depend on the industry or commercial facility that previously operated on the site. In addition to chemical exposure, the potential hazards at a Brownfield site may resemble those found on a construction site.

The SBLRBR describes certain properties that are specifically included and excluded from the definition of a “Brownfield site.” That law, and if necessary an EPA office or state environmental agency, should be consulted to determine if a particular site is a Brownfield. In general, a key characteristic of a Brownfield site is that it is targeted for redevelopment. The site is not necessarily contaminated, but it is not assumed to be “clean” because of its prior commercial or industrial use.

Identifying Hazards Commonly Found at Brownfield Sites

Generally, Brownfield sites are not likely to cause immediate or serious health effects to individuals living or working around them, but they may pose serious safety or health hazards for employees working on the sites. The kind of work involved will determine the types of exposures found. For instance, an employee doing *site cleanup*, as opposed to one performing a *site assessment*, will likely experience higher levels and longer durations of exposure.

The best way to determine which occupational hazards exist at such a site is to conduct a job hazard analysis for each task. A job hazard analysis combines employee exposure information with equipment and procedural information and results in a list of chemical and physical hazards associated with each task. When the employer has identified the hazards that may be present and that could result in employee exposure, it can find the applicable OSHA standards designed to protect its employees.

Common hazards experienced during site assessment and cleanup work at Brownfield sites include:

- Chemical hazards from surface or subsurface soil contamination or from contaminants present in buildings or containers (e.g., drums, underground storage tanks, confined spaces)
- Heat stress hazards
- Fall hazards from elevated work surfaces
- Slip, cave-in, and fall hazards from trenches and excavations
- Noise hazards
- Electrical hazards
- Hazards from heavy equipment, handheld tools, and other construction or demolition-related activities.

Applicable OSHA Standards

All OSHA general industry and construction standards (29 CFR 1910 and 1926) may apply to work at Brownfield sites, depending on the type of work performed and the hazards to which employees may be exposed. (Requirements may differ in states with OSHA-approved State Plans).

Potentially applicable standards include, but are not limited to: Personal Protective Equipment (29 CFR 1910.132/1926.28), Respiratory Protection (29 CFR 1910.134/1926.103), Air Contaminants (29 CFR 1910.1000/1926.55), Hazard Communication (29 CFR 1910.1200/1926.59), Hand Tools (29 CFR

1926.301), Fall Protection (29 CFR 1926 Subpart M), and Excavations (29 CFR 1926 Subpart P).

OSHA's Hazardous Waste Operations and Emergency Response (HAZWOPER) standard (29 CFR 1910.120 and 1926.65) may apply if the work to be done includes:

- Cleanup operations required by a governmental body involving hazardous substances which are conducted at an uncontrolled hazardous waste site.
- Corrective actions involving cleanup operations at sites covered by the *Resource Conservation and Recovery Act of 1976*.
- Voluntary cleanup operations at sites recognized by a governmental body as an uncontrolled hazardous waste site.

Cleanup operations are defined in paragraph (a)(3) of the HAZWOPER standard to include operations where hazardous substances are removed, contained, stabilized or processed in order to make the site safer for people or the environment.

Please note that even if operations performed at a Brownfield site are not covered by the HAZWOPER standard, other federal and state government programs (e.g., a funding contract or a state voluntary clean up program) may require HAZWOPER compliance.

Contents of a Written Health and Safety Plan (HASP)

If OSHA's HAZWOPER standard applies, the employer must prepare a site-specific HASP which

addresses the safety and health hazards, control measures, and work tasks of each phase of site operation and includes requirements and procedures for employee protection. It must be kept on site while work is being conducted and revised as site personnel, conditions, and work tasks change.

A HASP includes site-specific information on the following:

- Site characterization and hazard analysis
- Site control measures
- Personal protective equipment for site tasks and operations
- Employee training
- Monitoring and sampling
- Medical surveillance
- Decontamination procedures
- Emergency response
- Spill containment
- Confined space entry (if applicable)

Employers whose operations are not covered by the HAZWOPER standard may still want to address site safety and health with a written HASP that records hazards, identifies applicable OSHA standards, and recommends appropriate exposure controls.

For further information on Brownfields, please visit OSHA's Brownfields Safety and Health Topics page at <http://www.osha.gov/SLTC/brownfields/index.html>. Also visit the Environmental Protection Agency's (EPA) Brownfields site at <http://www.epa.gov/brownfields/index.html>.

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For more complete information:



U.S. Department of Labor

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